



An old sand-oil green of yesterday.

The Art of Yesterday – The Science of Today

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IT IS ONE of the fascinating paradoxes of our profession. Turfgrass management — for golf — is indeed both an art *and* a science. It was always meant to be so.

The keeper-of-the-green profession has a heritage going back 400, perhaps 500 years. How much it has changed! Science has changed it. And yet, paradoxically, how little it has changed. It is still basically an art form. The thoughts that follow are mostly concerned with science, but my real message is about art.

Science and the Earthworm

Back in the 1930s, Dr. John Montieth, then Director of the Green Section, recalled golfers of that day continuously complained about earthworm casts on

the surface of greens. Invariably, they told him, the casts would deflect their putts away from the hole. Now, from a scientific and statistical point of view, he felt surely a ball would occasionally be deflected into the hole. Over the years, he never recalled hearing one complaint about this occurrence!

Science has long ago solved the earthworm problem — and many more. Weed control, disease devastation, better machinery, better fertilizers — we are all better off because of turfgrass science.

Science and the Stimpmeter

“Science” has even developed a little stick we now roll a ball down to test the speed of the green. The Stimpmeter is

designed to establish speed criteria — not to make every green lightning fast, virtually impossible to putt or to maintain a healthy turf. Man did that! Those who condemn the Stimpmeter overlook the fact that there is an art in using it. The speed of any particular set of greens must surely be at that level best suited for the membership and the conditions that prevail.

Science and Soils

Science has given us specifications for putting green construction. The Green Section Specifications, written in the early 1960s, are officially entitled, “A Method of Putting Green Construction.” No one in a responsible position with the Green Section ever said or claimed

they would produce the perfect fool-proof green. Someone else said that. But science produced the data. It is up to us to execute, to use the data, to make it work. An artist does that.

Science and Research

Now a new era of research, to be sponsored by the USGA Green Section, lies just ahead. Conceived by Al Radko, a long-range, multi-million-dollar research project on minimal maintenance turfgrasses will soon be underway. The objective is to develop turfgrasses that will have greater winter hardiness, wear resistance, drought and temperature tolerance, disease and insect resistance, salt tolerance, require lower fertility levels, and still produce superior playing qualities. Grass plant selections in Asia and South Africa are now underway by U.S. scientists, sponsored by the Green Section. Once the work is complete, an intensive plant breeding program will begin. Genetic selections will be made by advanced computer analysis that cuts years off of previous plant breeding techniques. The full study will take at least 10 years. It will require an estimated outlay of \$5 million. It is an exciting undertaking, the largest of its kind in our history! It will need your help and your support.

Science and Computers

Computers have been mentioned and they are indeed a new "science." They are going to affect our professional and

private lives immeasurably in the immediate future. Dr. V. B. Youngner, University of California, Riverside, recently said, "Computers are an unbelievably fast and unbelievably accurate machine. They are also incredibly dumb. Man, on the other hand, is an extremely slow and inaccurate machine. However, he is brilliant! Bring these three forces together, i.e., speed, accuracy and brilliance, and there is no limit to what may be accomplished."

Notice, if you will, it is man's brilliance, his art that makes the difference. He makes the computer work.

And so it is in turfgrass management, in cooking, in driving an automobile, in just about any pursuit in life. You can have all the science in the world, but if you don't have that certain ability, that perception, that art, to bring it all together in the right manner:

If you don't have that "touch,"

You don't have very much!

Science and Irrigation

Science has also given us improved methods of irrigation. Now here is a topic we can all relate to as a science and an art. Who among us will disagree that automatic irrigation is not AUTOMATIC? Any type of irrigation is, at best, an inexact science. There are so many variables: wind, cloud cover, temperature, soil types, humidity, cutting height, type of grass, shade factors, etc. The more variables one

must deal with, the greater the "art" becomes. Good irrigation is indeed an art.

Science and Us

Perhaps one of the greatest gospels you and I can preach today in turfgrass management is that "green does not necessarily equal good." This story should be told over and over again, especially to American golfers.

Now, I have heard the quick voices of dissent among us regarding this philosophy. There are always quick voices of dissent. But before we agree to argue about it, let's first be sure we understand what is being said. No one has said, "Green golf courses are bad!" That's foolishness. But the demand by some for a green, green, green golf course, overly watered, overly fertilized, not properly mowed for good playing conditions (but mowed instead for a good green appearance) does NOT make it a good golf course for golf.

Our concern, our job today is much the same as it was for the "keeper of the green" 500 years ago. It is to provide the best possible playing surfaces for the game of golf, not necessarily the greenest ones.

Science will help us immeasurably in our work. But it takes more than science. It takes that special, magical ingredient known as YOU. It is you who make it all come together. You make it happen. You are the artist. Please, don't ever forget that!

Rolling a ball down a stick: an art or a science?

